

ABSTRACT

A gate valve apparatus minimizes the chance that radicals and plasma in exhaust gas will contact a main valve seal, thereby preventing deterioration of the main valve seal. Slats of a flow control device are installed in an exhaust flow path to control the pressure in a process chamber. The main valve seal is provided on an abutting surface of a main valve element. An annular projection is provided on a pump-side inner wall surface of an accommodating chamber. When it is in a non-sealing position, the main valve element is moved toward the pump-side inner wall surface of the accommodating chamber to bring an outer peripheral portion of the main valve element into contact with the annular projection. Thus, the main valve seal is shielded from radicals and plasma in exhaust gas by the main valve element, the annular projection and the pump-side inner wall surface of the accommodating chamber. A shielding ring may be secured to an outer peripheral portion of the main valve element radially outward of the main valve seal instead of using the annular projection.